

ABSTRACT OF THE DISCLOSURE

A cyclic equation setting unit transforms and sets a Taylor series equation for calculating a sine function into a single cyclic equation common to terms of the Taylor series equation, the single cyclic equation having a new known number  $Q$  that is defined by multiplying a known number  $Q$  and the square of a variable  $X$ , shifting the result by a shift number  $S$  and then adding a constant  $K$  thereto. An adjustment unit adjusts and prepares the shift number  $S$  such that within a variation range of the variable  $X$  the variable  $X$  has a maximum value 1 with the constant  $K$  being not greater than 1. A cyclic equation executing unit inputs and converts angle information  $i$  to the variable  $X$ , and executing the cyclic equation in sequence from higher order term to lower order term for the number of terms of the Taylor series equation to derive a sine function of the angle information  $i$ .